JACK B. EPSTEIN AND W.D. SEVON

1978

USGS OPEN FILE REPORT 78-392 SHEET 3 OF 3-EXPLANATION

EXPLANATION

Waste banks of slate from the Martinsburg Formation south of Blue Mountain in piles as much as 80 feet high; dumps of waste sandstone on Chestnut Ridge, about 100 feet high.

Alluvium

Cobbles to clay in drainage channels. Probably not more than 20 feet thick in most places.

Shale-chip rubble

Lower slope accumulations of chips of Mahantango shale along Chapple Creek. More than 20 feet thick.

Wisconsinan Outwash

Sand and gravel with rounded to subrounded cobbles and boulders with a paper-thin weathering rind. Probably not more than 50 feet thick in most places.

Qio

80 feet thick.

Qit

Illinoian Outwash Reddish-brown sandy gravel with Poorly sorted reddish-brown rounded pebbles and cobbles: poorly exposed. May be more

Illinoian Till till: probably more than 100 feet thick in places. Includes colluvium along south slope of Blue Mountain

Unconformity

Dolr

Long Run Member

Gray and red sandstone and red siltstone and shale in fining-upward cycles. About 2350 feet thick; only lower 650 feet exposed in quadrangle.

Beaverdam Run Member

Gray siltstone to fine-grained sandstone and some olive shale with rare Tentaculites and crinoid columnals. Thickness about 600 feet.

Walcksville Member

Red, green, and gray, very fine to medium-grained sandstone and red siltstone and shale; some fining-upward cycles. About

Dct

Towamensing Member

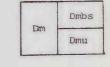
Gray, fine-grained sandstone, siltstone, and shale, slightly more massive than the underlying Trimmers Rock Formation. About 275 feet thick.

Trimmers Rock Formation

Gray, blocky siltstone and shale with scattered fossils. Thickness ranges from 700 to 1050 feet.

Mahantango Formation

Dark-gray, generally cleaved shale and siltstone. About 2575 feet thick. Includes three fossiliferous zones: Little Gap (LG, 44 feet thick), Kunkletown (K, 20 feet thick), and Centerfield (C, 20-30 feet thick); and a blocky siltstone (Nis Hollow, N, about 20 feet thick).



Marcellus Formation

Dm, Marcellus Formation, undivided; dark-gray silty shale; About 800 feet thick with considerable structural thickening and thinning. About 6 feet of basal black carbonaceous shale (Dmu, Union Springs Shale Member) exposed at top of Descript Ridge. Stony Hollow and Brodhead Creek Members (Dmbs) not differentiated in quadrangle.

Buttermilk Falls Limestone

Deeply leached, light-colored cherty argillaceous limestone. About 65 feet thick.

Unconformity?

Palmerton Sandstone

Massive light-colored, weathered, partly conglomeratic coarse-grained sandstone. About 100 feet thick.

> Dse Schoharie and Esopus Formations,

Undifferentiated Weathered partly cherty siltstone with abundant burrows

Unconformity?

(Taonurus). About 100 feet thick.

Ridgely Sandstone of the Oriskany Group Weathered light-colored quartz-pebble conglomerate and conglomeratic sandstone with brachiopod molds. About 45 feet thick.

Dsn

Shriver Chert of the Oriskany Group and New Scotland Formation, undivided Weathered fossiliferous chert, sandstone, and conglomerate (Shriver) and fossiliferous chert and silty shale (New Scotland). About 90 feet thick.

DSsd

Stormville Member of the Coeymans Formation and Decker Formation, undivided Weathered poorly fossiliferous sandstone and lesser conglomerate (Stormville) and limonitic siltstone, sandstone, and shale (Decker). About 100 feet thick.

Bossardville Limestone Laminated to thin-bedded limestone. About 100 feet thick.

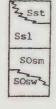
Spi

Poxono Island Formation

Poorly exposed dolomite, limestone, and shale. Thickness variable, averages about 600 feet thick.

Hoomsburg Red Beds

Red siltstone, shale, and sandstone. About 1,500 feet thick.



Shawangunk Formation

Sst, Tammany Member; gray, fine-grained to conglomeratic quartzite. 0-about 400 feet thick. Grades laterally into Lizard Creek Member.

Ssl, Lizard Creek Member. Gray and minor reddish sandstone, siltstone, and shale. 800-1,400 feet thick.

Som, Minsi Member. Gray, partly conglomeratic quartzite. About 350 feet thick.

Saw, Weidens Member: Conglomerate and quartzite, pebbles as much as two inches long. 0-125 feet thick.

Unconformity



Pen Argyl Member Gray, thick- to thin-bedded slate with minor graywacke. 5,000-6,000 feet thick.



Ramseyburg Member

Gray, thick- to thin-bedded graywacke and slate. About 3,000 feet thick.



Bushkill Member Thin-bedded slate and minor graywacke. Probably close to 5,000 feet thick.

STRUCTURAL SYMBOLS

Contact

Dashed where approximately located; short dashed where inferred; dotted where concealed. Zigzag contact is arbitrary cutoff between the Tammany and Lizard Creek Members of the Shawangunk

Inclined Overturned Sawterth on upper plate. Dashed where approximately located; dotted where concealed. Dotted where concealed. U, upthrown side; D, down-thrown side.

Showing trace of axial surface and direction of plunge Dashed where approximately located; short dashed where inferred; dotted where concealed.

Showing trace of axial surface and direction of plunge. Dashed where approximately located; short dashed where inferred; dotted where concealed.

Showing trace of trough plane and direction of plunge. Dashed where approximately located; short dashed where inferred; dotted where concealed.

Overturned anticline Showing trace of axial surface and direction of dip of limbs and plunge. Dashed where approximately located; short dashed where inferred; dotted where concealed.

Overturned syncline Showing trace of axial surface and direction of dip of limbs and plunge. Dashed where approximately located; short dashed where inferred; dotted where concealed.

× Vertical ₹<sub>55</sub> Overturned Strike and dip of beds

> 32 Strike and dip of slaty cleavage

30 43 Strike and dip of hedding and cleavage parallel in strike but divergent in dip

3 Inclined Horizontal Bearing and plunge of intersection of bedding and cleavage Strike and dip of slip cleavage

4+ Bearing and plunge of intersection of slaty cleavage and slip cleavage

Bearing and plunge of slickensides on slaty cleavage

Abandoned limestone quarry

Abandoned sand pit A Line of cross section

Detailed descriptions of the stratigraphy and structure may be obtained from:

Epstein, J. B., and Epstein, A. G., 1969, Geology of the Valley and Ridge province between Delaware Water Gap and Lehigh Gap, Pennsylvania, in Subitzky, Seymour, ed., Geology of selected areas in New Jersey and eastern Pennsylvania and quidebook of excursions: New Brunswick, N. J., Rutgers Univ. Press, p. 132-205.

Epstein, J. B., Sevon, W. D., and Glaesser, J. D.,: 1974, Geology and mineral resources of the Lehighton and Palmerton 7:1/2-minute quadrangles, Pennsylvania: Pennsylvania Geol. Survey 4th ser., Atlas 195 cd, 460 p.

U. S. Geological Survey Open File Report 78-392